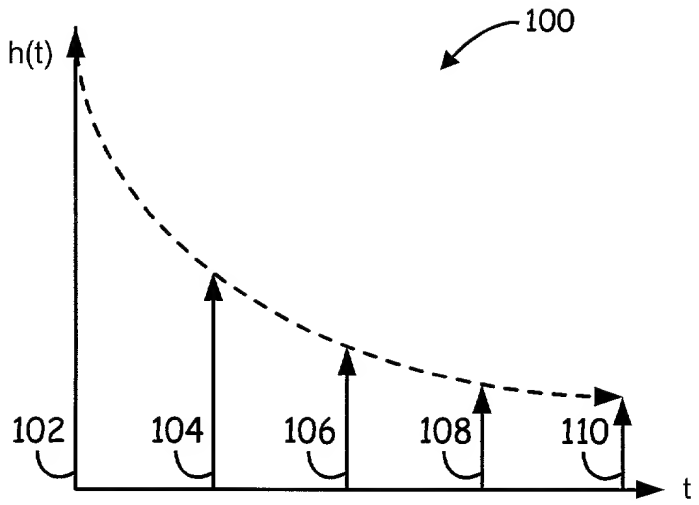

FIG. 1 (Prior Art)

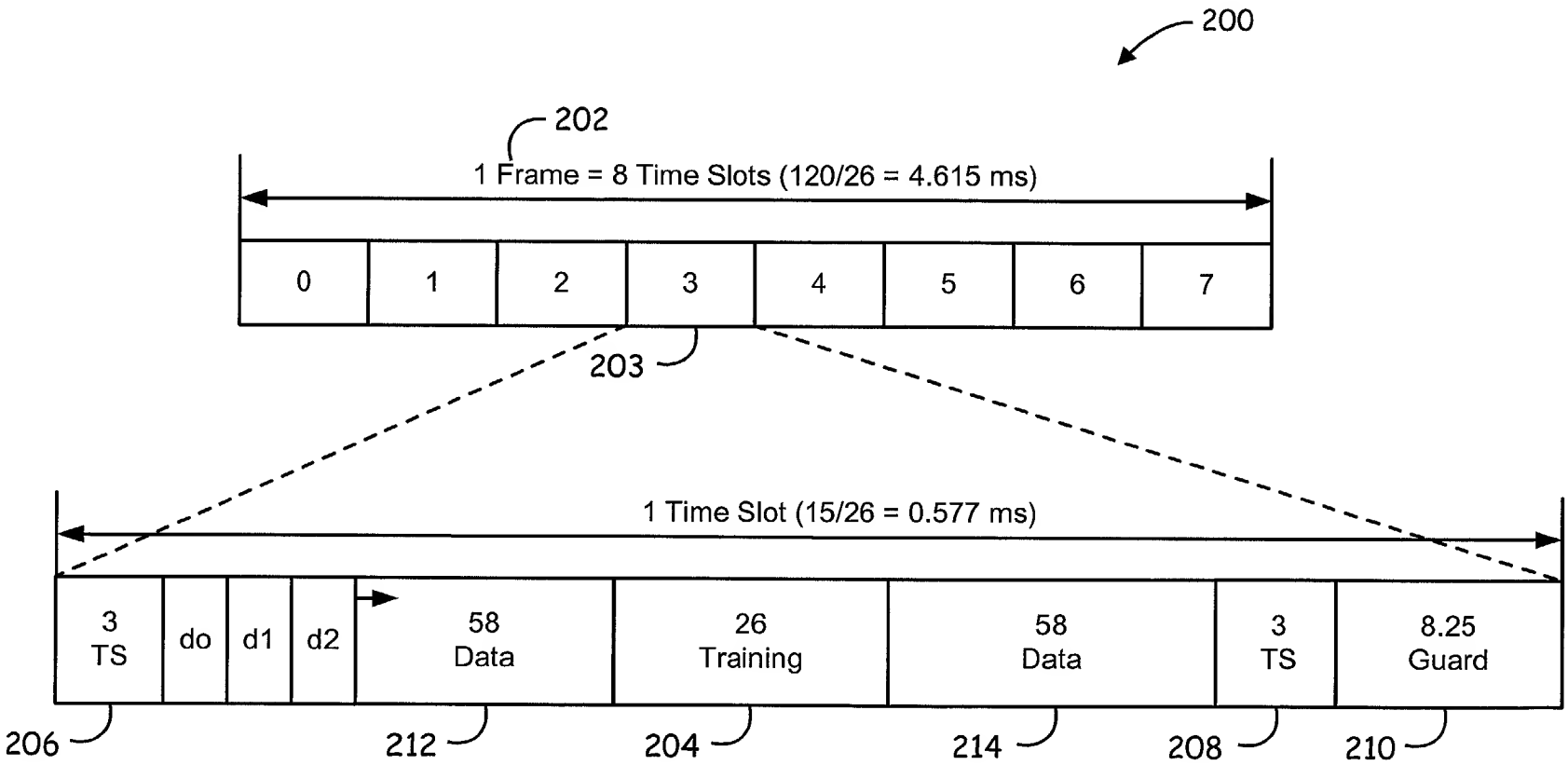

FIG. 2 (Prior Art)

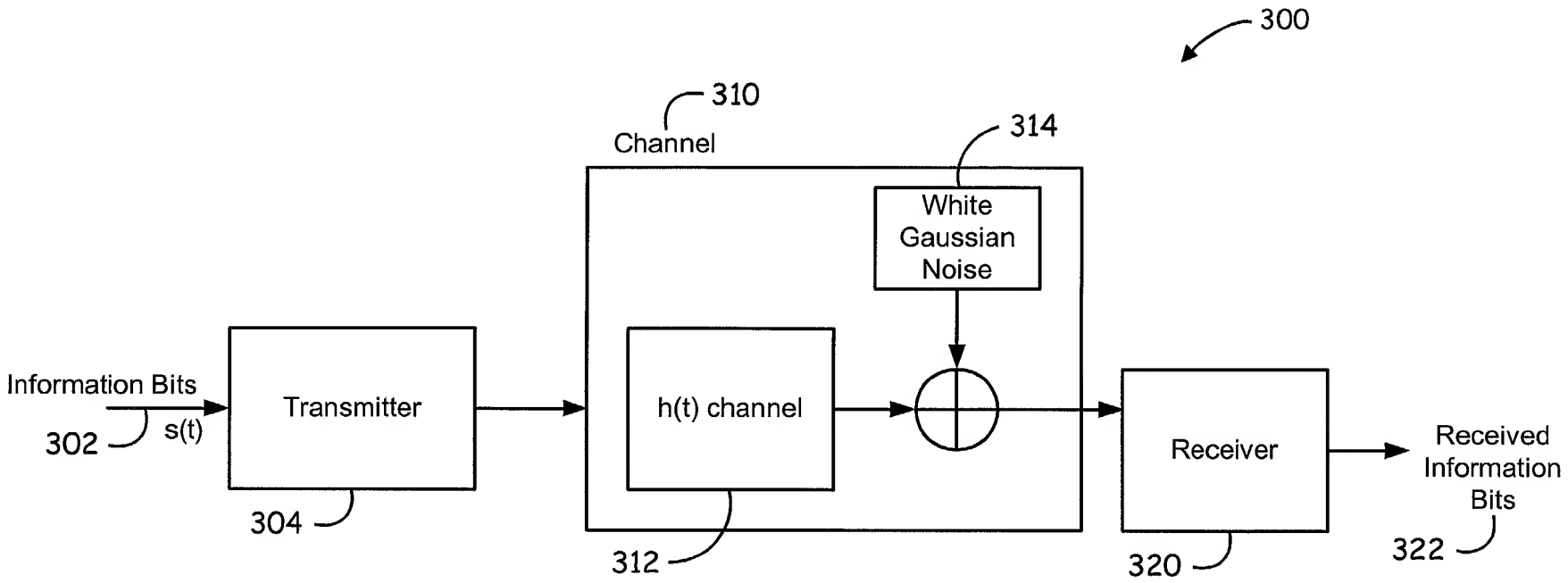

FIG. 3 (Prior Art)

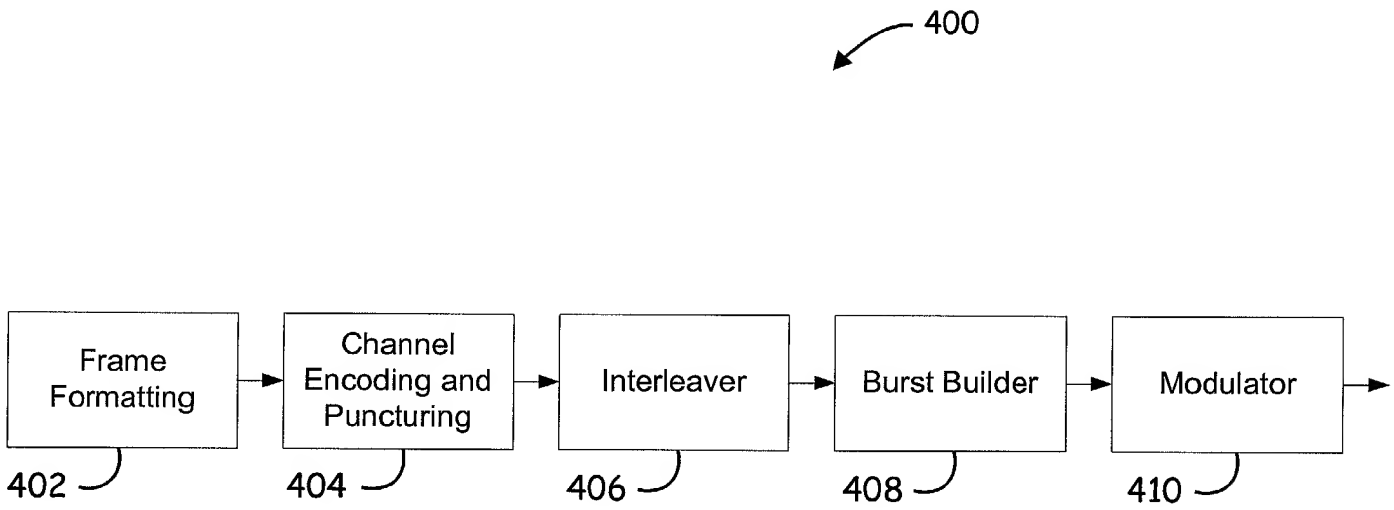
400
Frame Formatting
Channel Encoding and Puncturing
Interleaver
Burst Builder
Modulator
402
404
406
408
410

FIG. 4

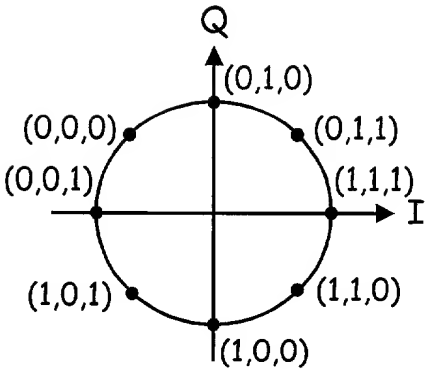

FIG. 5

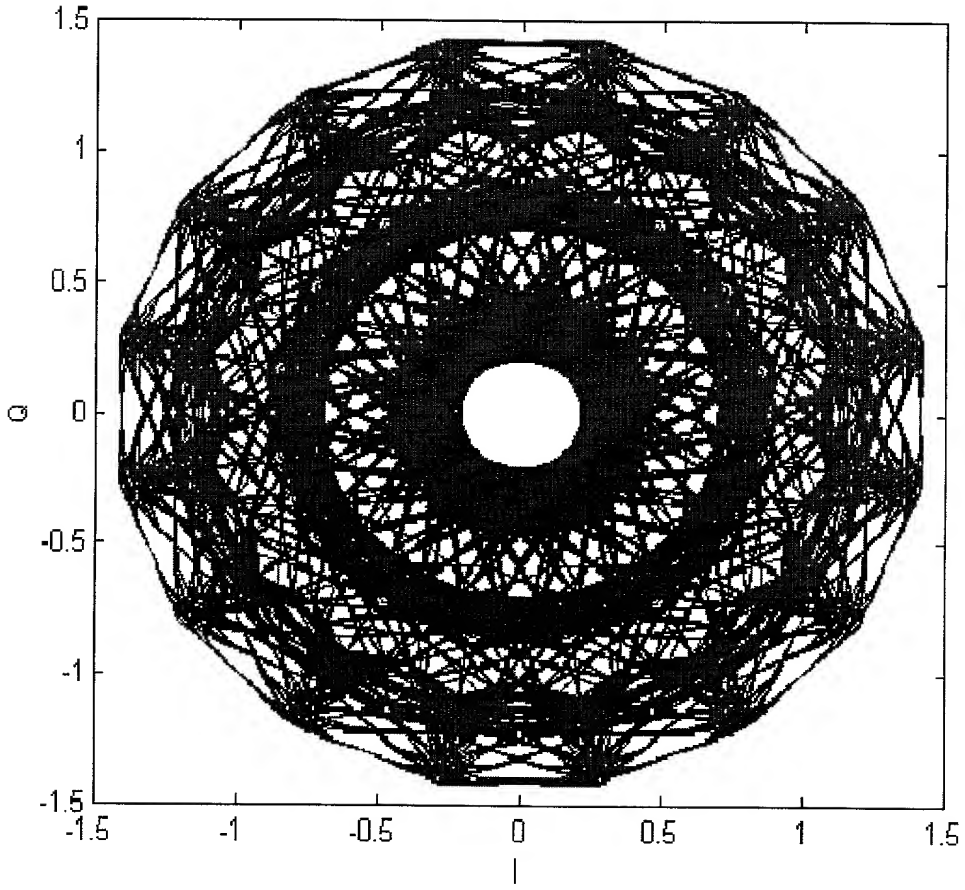

FIG. 6

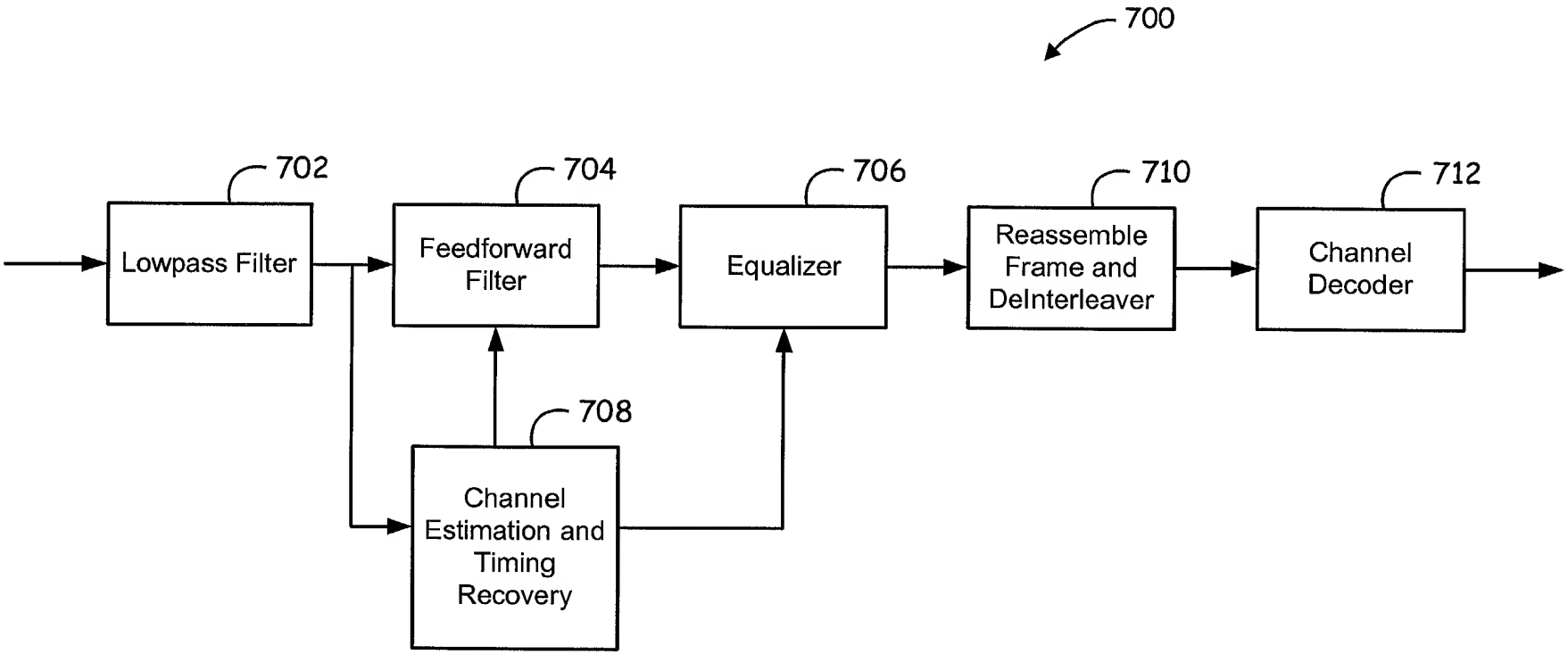
700
702
Lowpass Filter
704
Feedforward Filter
706
Equalizer
710
Reassemble Frame and DeInterleaver
712
Channel Decoder
708
Channel Estimation and Timing Recovery

FIG. 7

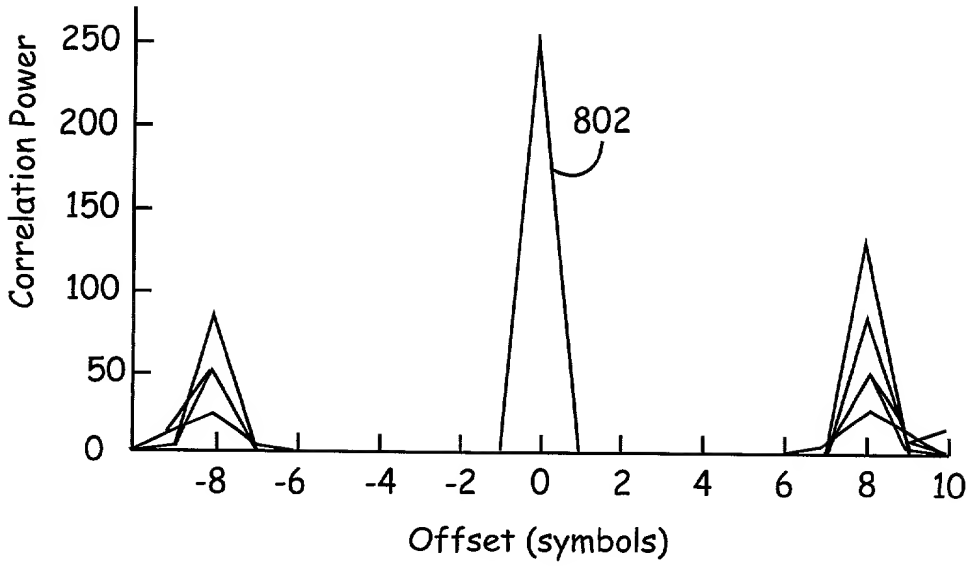
Correlation Power
250
200
150
100
50
0
802
-8
-6
-4
-2
0
2
4
6
8
10
Offset (symbols)

FIG. 8

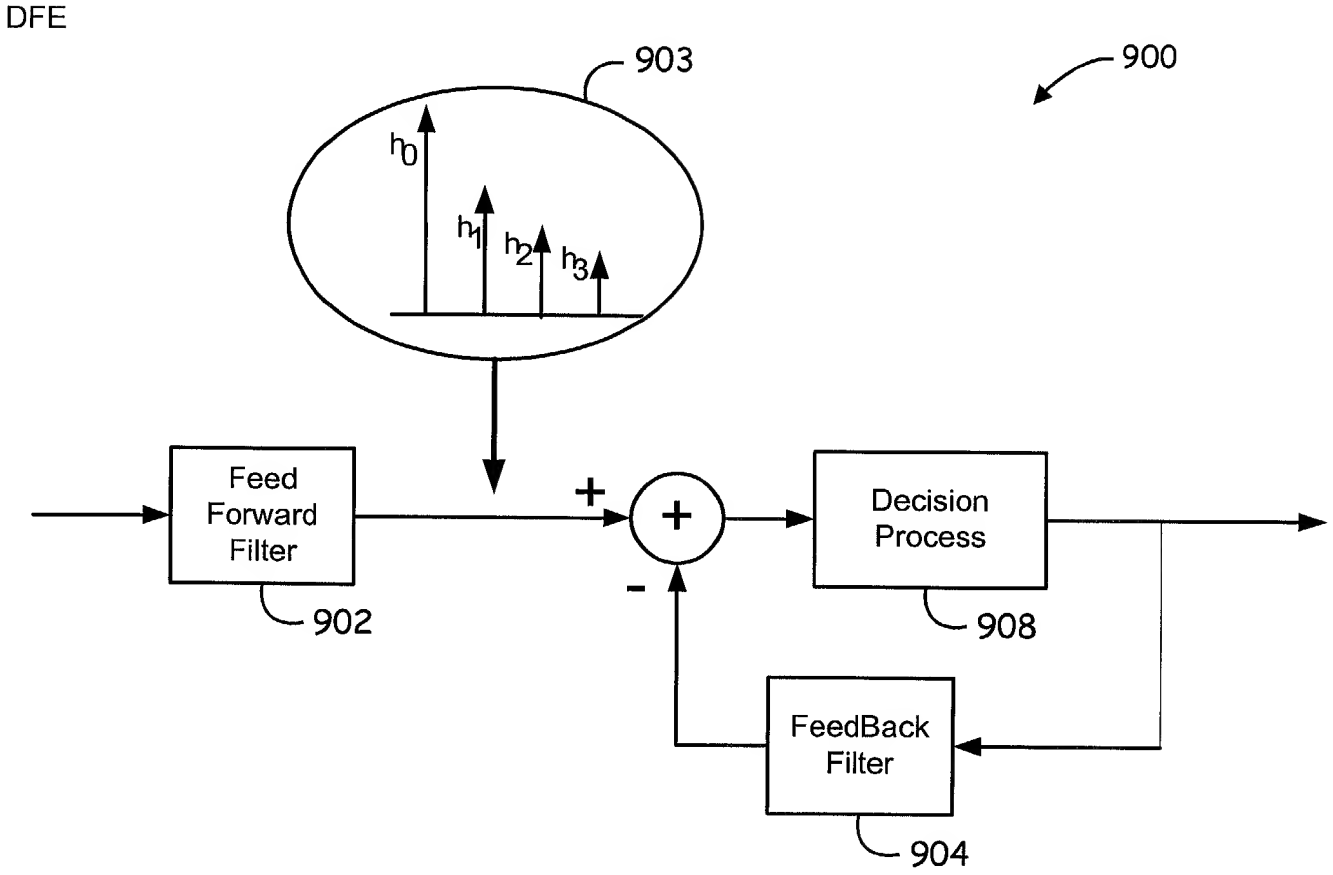

FIG. 9 (Prior Art)

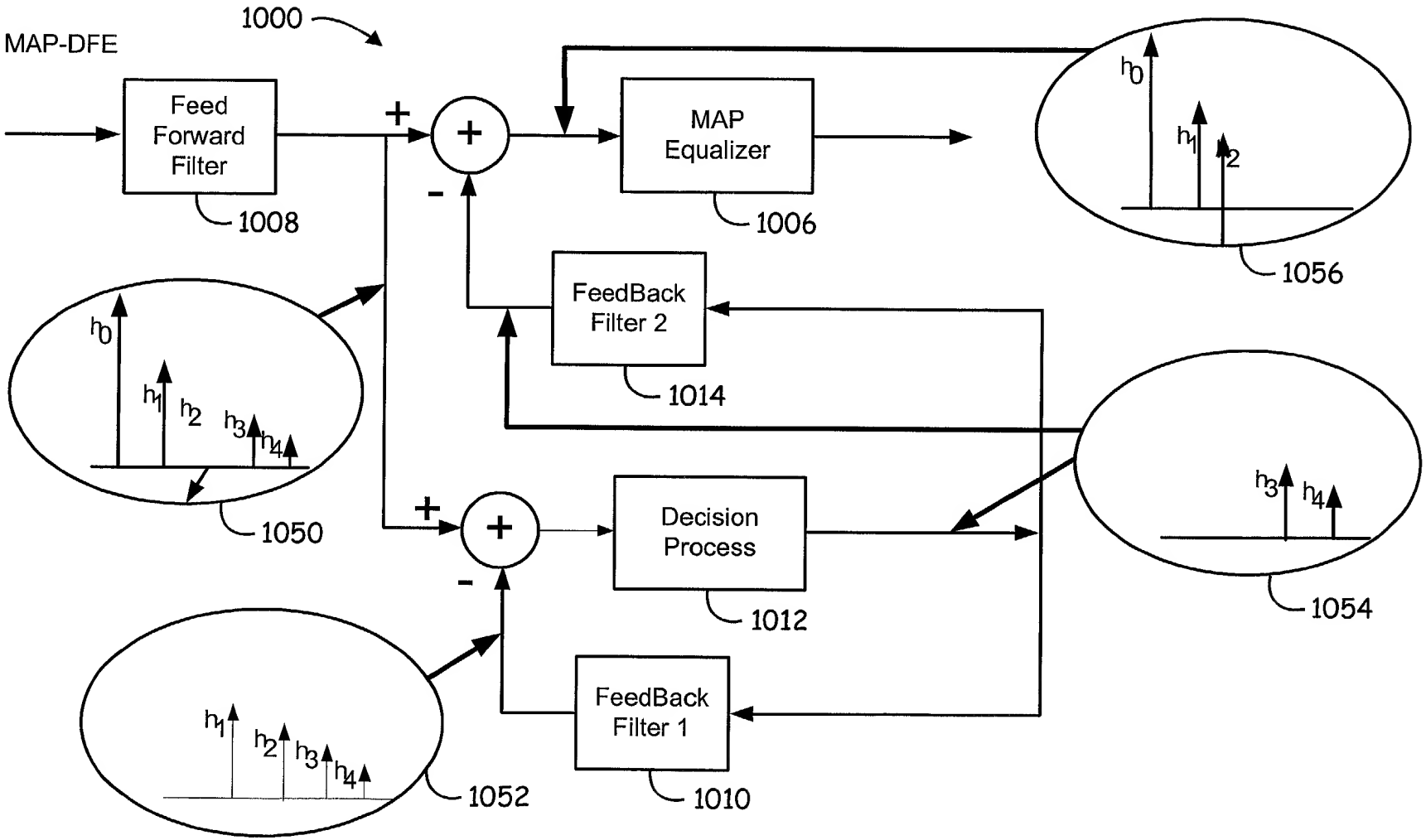

FIG. 10 (Prior Art)

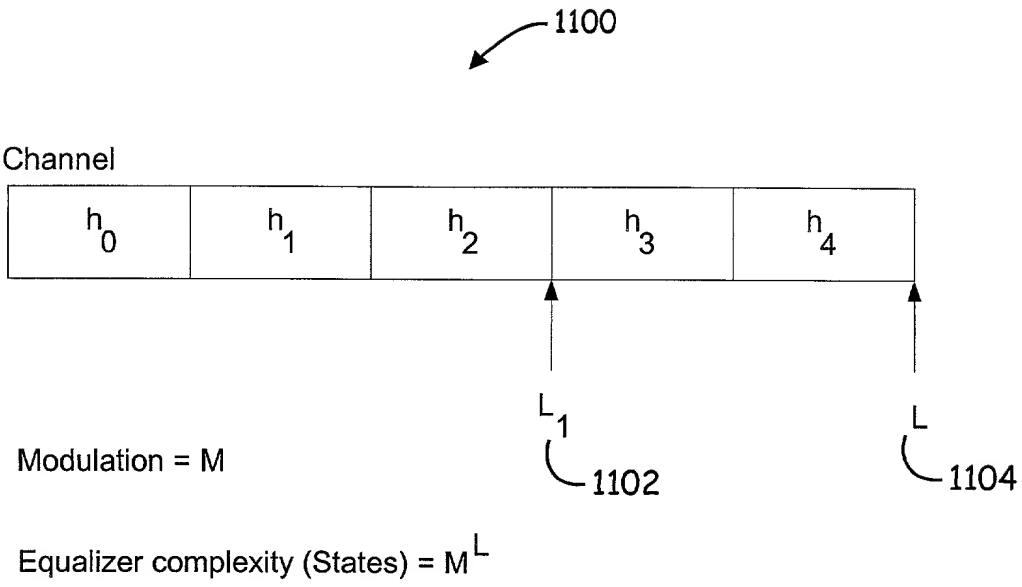
1100
Channel
h0
h1
h2
h3
h4
L1
1102
L
1104
Modulation = M
Equalizer complexity (States) = M^L

FIG. 11

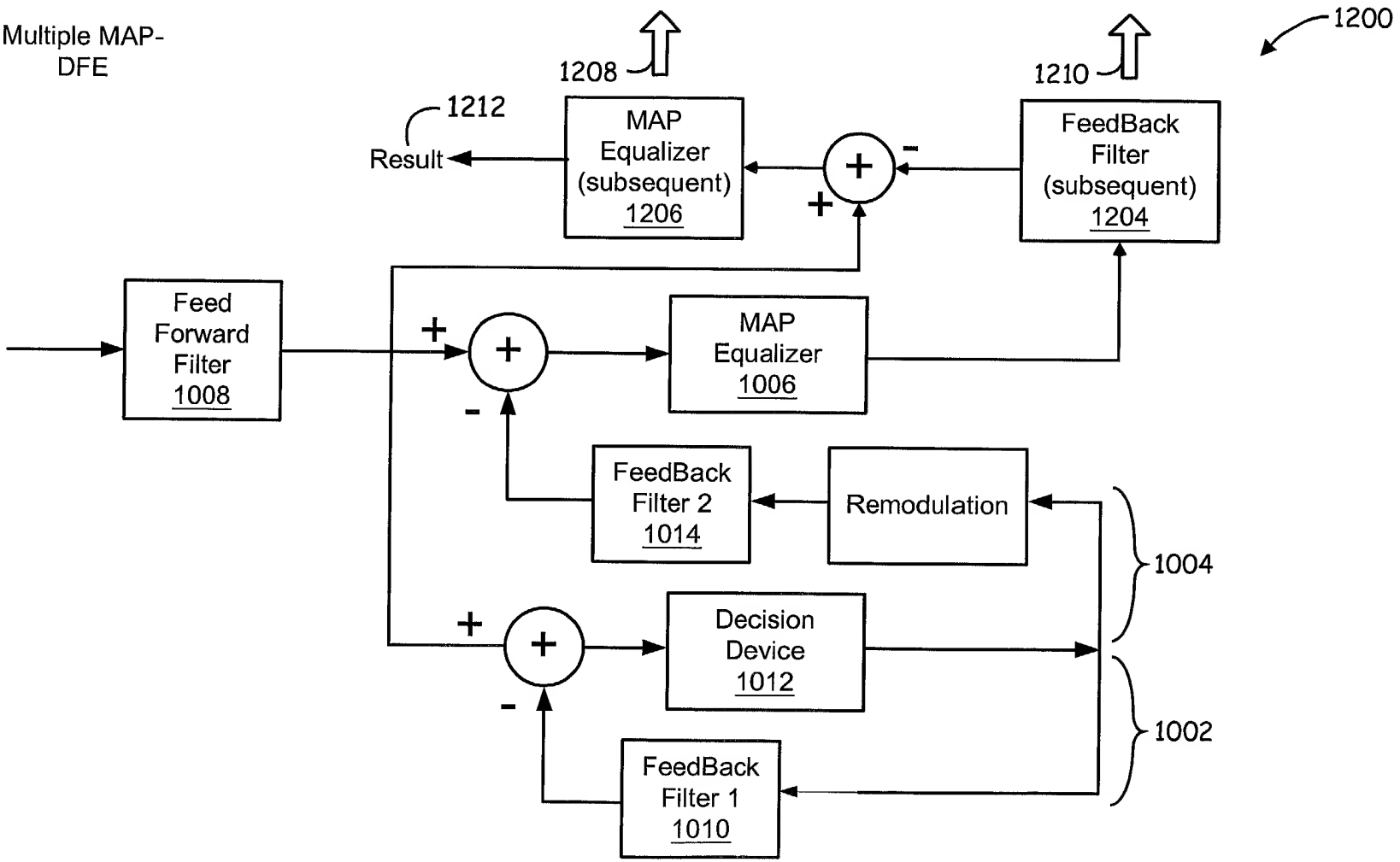
Multiple MAP-DFE
1200
1208
1210
1212
Result
MAP Equalizer (subsequent) 1206
FeedBack Filter (subsequent) 1204
Feed Forward Filter 1008
MAP Equalizer 1006
FeedBack Filter 2 1014
Remodulation
Decision Device 1012
FeedBack Filter 1 1010
1004
1002

FIG. 12

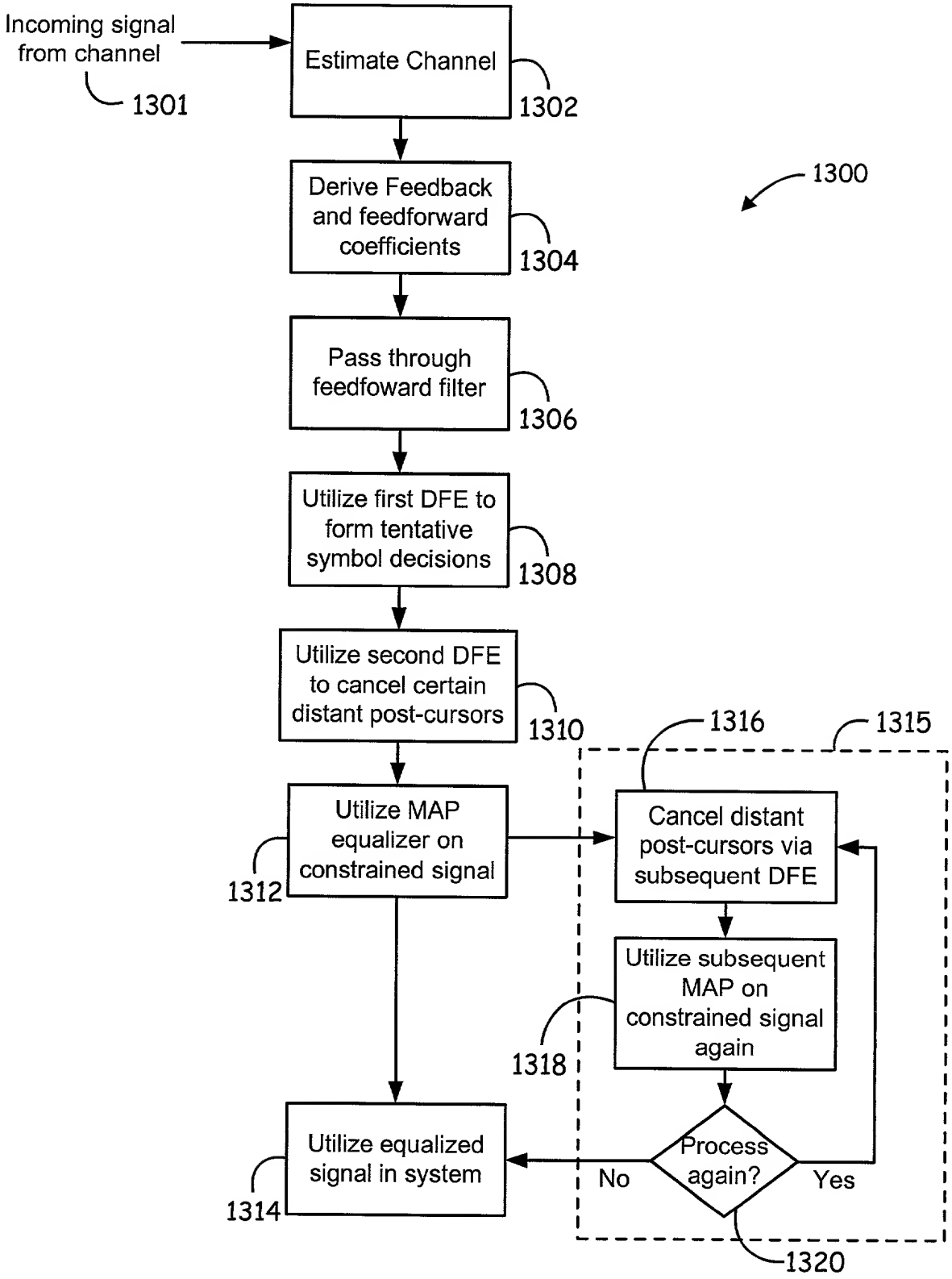
Incoming signal from channel
1301
Estimate Channel
1302
1300
Derive Feedback and feedforward coefficients
1304
Pass through feedfoward filter
1306
Utilize first DFE to form tentative symbol decisions
1308
Utilize second DFE to cancel certain distant post-cursors
1310
1316
1315
Utilize MAP equalizer on constrained signal
1312
Cancel distant post-cursors via subsequent DFE
Utilize subsequent MAP on constrained signal again
1318
Utilize equalized signal in system
1314
Process again?
No
Yes
1320

FIG. 13